Living arrangements of older adults in the Netherlands and Italy: Coresidence values and behaviour and their consequences for loneliness

de Jong-Gierveld, J.; van Tilburg, T.G.

published in
Journal of Cross-Cultural Gerontology
1999

DOI (link to publisher)
10.1023/A:1006600825693

document version
Publisher's PDF, also known as Version of record

Journal of Cross-Cultural Gerontology **14:** 1–24, 1999.

Living arrangements of older adults in the Netherlands and Italy: Coresidence values and behaviour and their consequences for loneliness

JENNY DE JONG GIERVELD[1,2] & THEO VAN TILBURG[2]
[1] *Netherlands Interdisciplinary Demographic Institute (NIDI), The Hague, the Netherlands;*
[2]*Department of Social Research Methodology, Vrije Universiteit, Amsterdam, the Netherlands*

Abstract. Value studies indicate that the process of individualization in Europe started in Sweden and Norway, and continued via France and the Netherlands; the southern European countries lag behind, and are still characterized by more traditional family orientations. Starting from this point of view, this paper investigates the effects of differences between the Netherlands and Italy in the field of living arrangements of older adults with and without partners. The consequences of living alone and of coresidence with adult children have been further investigated, using loneliness as the dependent variable. The size and support functions of the network of social relationships, socio-economic resources, health, sex and age are also taken into account. Data come from face-to-face surveys among a random sample of older adults (55- to 89-year-old women and men) in the Netherlands (n = 4,494) and in Italy (n = 1,570), using the same research design and questionnaire. The data show country-specific differences in household types of older adults: the proportion living alone is much higher among older people without partners in the Netherlands; the proportion coresiding with their adult children is higher in Italy than in the Netherlands. Controlled for age, health, sex, size and support of the network, and for differences in socio-economic resources, household composition is still the most important determinant of loneliness. Living without a partner in the same household as one's adult children yields country-specific correlations that correspond with differences in value orientations: less loneliness in Italy, more loneliness in the Netherlands.

Keywords: Family, Health, Living arrangements, Loneliness, Social network support, Socio-economic status

Introduction

Since the beginning of the seventies marriage patterns and patterns of household composition have changed across Europe. There has been a decline in the rate of marriage and remarriage together with a spectacular rise in persons living alone or cohabiting with a partner outside of marriage. This trend is clear among both younger and older adults. A relatively high percentage of older people live in one-person households, and the percentage of older people who live together with one (or more) of their children is rapidly

decreasing in Western as well as in Central and Eastern European countries (De Jong Gierveld & Van Solinge 1995; Dooghe 1991; Klinger 1992; Myers 1992; Sundström 1994; Van Solinge 1994; Wall 1984).

Demographers interpret these trends as belonging to an ongoing process of individualization, and refer to these developments as part of a process called '*the second demographic transition*' (Van de Kaa 1987). The effects of this transition are apparent all over Europe, albeit with differences in timing. Sweden and Norway are considered the forerunners, France, the Netherlands, Germany and Belgium followed suit, and Italy and Portugal lag behind (Bosveld 1996). According to this typology, the patterns of household composition or living arrangements in the Netherlands are more individualistically oriented and the patterns in Italy are still oriented more strongly towards traditional family patterns. This corresponds with research findings from the European Values Studies (Ester, Halman & de Moor 1994), and the findings of the Eurobarometer 39 (Malpas & Lambert 1993). Moreover, the findings of the Population Policy Acceptance Surveys (Moors 1995) indicate that the scores of the Netherlands' respondents are generally low on family orientation items; only 38 percent of younger respondents and 25 percent of older adults agree with a statement saying that children are obliged to support their parents. Additionally, a majority of older respondents in the Netherlands state explicitly that it is their wish to be independent of their children and to live in their own homes as long as possible, and that they consider cohabiting with their children an undesirable option. By contrast, younger and older adults in Italy are convinced that the best thing children can do is to support their parents (Palomba 1995). Within this family orientation, coresidence of older persons and their adult children is considered to be a highly favoured option. Moreover, according to Lecchini, Marsiglia and Bottai (1995) in Italy coresidence of older people and their children is considered to be a safeguard against feelings of loneliness.

However, other researchers (Townsend & Tunstall 1973; Wenger 1983) point to the fact that co-residence of adult children and their parents is a threat to well-being, and is correlated with stronger feelings of loneliness among older adults, primarily because they see less of their contemporaries, feel obliged to take up a lot of social roles/responsibilities and feel a loss of privacy and self-determination. Moreover, the need to support frail parents is not the only possible trigger to start (or continue) coresidence. The pathways to coresidence are much more diverse and complex, as indicated by Grundy (1992): it is not only the older adults' need for support, but also the needs of the children that have to be taken into account. The needs of the child are related to such circumstances as disablement, divorce, lone parenthood, and the need for support and comfort of grandchildren when their parents are

involved in labour market activities. In all these situations it is the older adult who provides rather than receives support. Home ownership among older adults may also contribute to co-residence; either because the children lack suitable housing or because they have a low-income. In general, a low-income situation either among the children or among the older persons, increases the chance that parent and adult child will coreside (Calvani, Gallina & Palomba 1996). Given that coresidence may be triggered by a positive, family-oriented intention but also by more neutral or even negative feelings of being obliged to respond to a demand for (urgently needed) help, further investigations are needed to unravel the relationship between living with partner, coresidence (with or without partner) with children, and living alone, and the intensity of feelings of loneliness among older adults. This brings us to the research questions to be answered in this paper: Is there a relationship between the intensity of loneliness of elderly men and women and types of living arrangements: living with partner, living (with or without partner) with adult children, or living alone? Do Italian elderly men and women differ in these respects from their peers in the Netherlands? Previous research (Dykstra, 1995; Mullins & Mushel, 1992) has pointed out that the intensity of loneliness feelings is also related to characteristics of the actual network of social relationships (a smaller network and less support received from the network relate to more intense loneliness), as well as to health, age and gender. As mentioned, the type of living arrangements among older people is not independent of their socio-economic situation. We shall include these factors in the research design.

Loneliness: Definition and determinants

The well-being of older adults in general and their loneliness in particular are important themes in recent discussions in the Netherlands and other European countries. Scholars such as Day and Day (1994), emphasize that aspects of the ageing process concerning social integration, the participation of older adults in society, and the absence of loneliness are very important for successful ageing. Additionally, they underline the importance of gaining deeper insight into the determinants of these phenomena.

Loneliness is a situation experienced by the individual as an unpleasant, or unacceptable discrepancy between the number and quality of social relationships realized, and the social relationships desired (De Jong Gierveld 1987; Perlman & Peplau 1981). This description includes situations in which the number of existing relationships is smaller than desired or acceptable, as well as situations where the level of intimacy one longs for has not been realized. As a subjective experience, loneliness has to be distinguished from objective

social isolation. Persons without or with a small number of relationships are socially isolated but they are not necessarily lonely, and vice versa (Townsend & Tunstall 1973; Wenger, Davies, Shatahmasebi & Scott 1996).

Earlier studies among older adults have shown that loneliness is correlated with marital status and *living arrangements*: e.g. loneliness is more frequent among older adults living without a partner than among those living with a partner, either married or unmarried (De Jong Gierveld, 1986, 1987; De Jong Gierveld & Van Tilburg 1989; Jylhä & Jokela 1990; Wenger, Davies, Shatahmasebi & Scott 1996). The protection idea provides an explanation for the relatively high degree of well-being and low degree of loneliness among men and women with a partner (Dykstra 1990; Gove & Hughes 1980; Van Tilburg 1988). For older adults without partners, several options for living arrangements are open. Some prefer living independently in a one-person household, others opt for coresidence (with children, or with others). This decision, guided by their preferences, is also structured by the possibilities and constraints of the situation the older adults are in. Among those without partners, partner history and marital status history are connected to the possibilities they face and the constraints they are confronted with. The social position with regard to family, the social network, labour force participation and socio-economic resources, differs significantly for the never-married, the widowed and the divorced. We will take that into account when developing the design for this research project.

Socio-economic resources provide older persons with greater or fewer opportunities and resources for independent and successful ageing, or confront them with restrictions in realizing physical well-being and a situation of non-loneliness (Wenger et al. 1996). Qualitative research has pointed out that money is one of the themes spontaneously mentioned as a source of well-being in old age (Sherrard 1994). It is a well-known fact that money makes life much easier for older persons in that it enables them to buy services that allow them to live at home, despite physical infirmities (Vicente, Wiley & Carrington 1979). The poor are ‘forced’ to apply strategies that include restricting their social activities such as visiting birthday parties, inviting people to dinner, membership of clubs and societies, and the continuation of a telephone connection (Engbersen 1990). Among the elements of the socio-economic resources are income level and home ownership. Home ownership can provide older people with an extra financial resource because it is an indicator of a long-term investment that can be converted into cash if the need arises, and it implies having to spend only a small part of their income on housing (Klaus & Hooimeijer 1994). For older adults, home ownership may also function as a source of independence and pride. We hypothesize

that the socio-economic status of older people will be negatively related to their intensity of loneliness.

Another determinant of loneliness to be discussed here is the size and support of the social network. The concept of social network refers to all people with whom one interacts regularly, and with whom one has close ties. Exchange of support is a crucial indicator of the functioning of the social network (Antonucci & Akiyama 1987; Depner & Ingersoll-Dayton 1988; Knipscheer 1993; Wenger, Davies, Shatahmasebi & Scott 1996). We hypothesize that reporting a larger social network and a greater degree of support received from network members, is negatively correlated with the intensity of loneliness among older adults.

Health situation. The health situation of older people has a major influence on their capacity to establish and maintain a satisfying network of personal relationships (Tijhuis 1994). Health, whether reported subjectively or measured objectively, decreases with age (Baltes, Mayr, Borchelt, Maas & Wilms 1993; De Jong Gierveld, Dykstra & Beekink 1994; Liefbroer & De Jong Gierveld 1995; Manton & Soldo 1992; Mullins, Sheppard & Andersson 1988; Soldo, Wolf & Agree 1990).

Method

Respondents

In 1992, face-to-face interviews were conducted with 4,494 respondents in the Netherlands within the context of the NESTOR-LSN research programme on 'Living arrangements and social networks of older adults' (Knipscheer, De Jong Gierveld, Van Tilburg & Dykstra 1990, 1995). The respondents constituted a random sample of men and women born in the years 1903 to 1937, stratified according to sex and year of birth. The sample was taken from the population registers of eleven municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7%. A minority of those interviewed (N = 329; 7.3%) lived in an institution of some sort, including nursing homes, old people's homes and psychiatric hospitals.

In 1993 and 1994, face-to-face interviews were conducted with 1,570 respondents in western Tuscany, Italy. They constituted a random sample of men and women born in the years 1903 to 1937. The names and addresses were taken from the population registers of several municipalities in the provinces of Pisa, Livorno, Lucca and Massa-Carrara, according to a series

of indicators capable of expressing the urban level and other social and economic conditions of central northern Italy (Bottai, Caputo & Lecchini 1995). The response in this OLIVAR survey, carried out within the Italian National Project 'Invecchiamento' of the National Council of Research, was 65.6%.

In order to optimize the comparison between the two surveys – the Dutch sample was stratified according to sex and year of birth, whereas the Italian sample was not stratified – the respondents in the Dutch survey were weighted in such a way that for each 'year of birth' the number of males and females in the Dutch sample was equal to the numbers in the same year of birth in the Italian sample. Excluded from the sample are older people living in institutions, respondents with whom the interview was terminated before the personal network had been delineated, and Dutch respondents who only answered the short version of the questionnaire. After weighting, the resulting number of Dutch respondents equals the number of Italian respondents (N = 1,548).

Questionnaire

The Italian OLIVAR survey used a questionnaire which was a shortened and adapted version of the questionnaire originally developed by the Dutch group of researchers of the NESTOR-LSN research programme.

Loneliness. Two loneliness measuring instruments have been used in the questionnaire. The first one is a direct question, formulated as follows: I sometimes feel lonely, with answer categories: no (1), more or less (2), and yes (3). This question provides us with a general idea of the incidence of loneliness among subcategories of the population. An affirmative answer to this question tends to be rooted in prevailing ideas about loneliness in our society, including the social stigma of loneliness (resulting in underreporting of loneliness in certain circumstances), or, conversely, the acceptance of admitting to feelings of loneliness in certain situations. For example, it is socially accepted that (recent) widows and widowers report feelings of loneliness when asked the aforementioned question. This means that where there are country-specific differences in the social definition of loneliness, this measuring instrument yields different results. The second measuring instrument consisted of five positive and six negative items (De Jong Gierveld & Kamphuis 1985). An example of a negatively formulated scale item is: I experience a sense of emptiness around me. An example of a positively formulated item is: I can rely on my friends whenever I need them. The word loneliness has not been used in the items of the loneliness scale to avoid reactions of respondents who are aware of the stigma of loneliness (Wenger 1983). Given the fact that the negatively formulated items refer

primarily to the fact that a partner, a special or best friend is sorely missed – emotional loneliness (Weiss 1973) –, and that the positively formulated items refer primarily to the absence of a broader category of acquaintances, colleagues, and friends – social loneliness (Weiss 1973) – a specific point of view on loneliness is presented to the respondents to reflect their personal experiences with loneliness. So, it is assumed that answers to the items of the loneliness scale will be more directly influenced by the respondent's evaluations of the actual social network. If there are country-specific differences in the evaluation of the role of the social network as the key factor in the development and persistence of feelings of loneliness, this loneliness measuring instrument reflects these differences. The scale has been used in several surveys and proves to be a rather robust, reliable and valid instrument (Van Tilburg & De Leeuw 1991). It ranges from 0 (*not lonely*) to 11 (*extremely lonely*). In the current study, we used the subscale of negative items with a range of 0 (*not lonely*) to 6 (*lonely*), and the subscale of positive items with a range of 0 (*not lonely*) to 5 (*lonely*) separately to further investigate country-specific differences in loneliness. The positive subscale formed a hierarchically homogeneous scale (Loevingers H = 0.40 for the Dutch and 0.34 for Italian respondents; reliability $p = 0.74$ and 0.60, respectively). Also, the negative subscale formed a hierarchically homogeneous scale (H = 0.48 for Dutch, and 0.39 for Italian respondents); $p = 0.83$ and 0.75, respectively. The correlations between the three measures are reported in Table 3.

Living arrangements. To investigate living arrangements, we differentiated between older people living with a partner either with or without children and older people without a partner. In the latter category we differentiate between the subcategories: older people living in a one-person household either never married, widowed or divorced, older people living with child(ren), and older people living without children, with other(s).

Network size. The networks of persons with whom the respondents maintained important and frequent relationships were delineated by using a procedure based on Crochan et al. (1990). Seven categories were distinguished: people who live in the same household, children, children-in-law, other relatives, neighbours, friends and acquaintances. In each of the categories, the respondents were asked to name people above the age of eighteen with whom they had an important and regular relationship. The size of the network was determined by the number of people who were named in the various categories.

Social support. One question about emotional support received, namely 'How often did it occur in the last year that you told . . . about your personal exper-

iences and feelings?' was posed regarding a maximum of twelve of the relationships, namely the relationships with the highest contact frequency. The answering categories were never (0), seldom (1), sometimes (2) and often (3). The mean frequency of support per relationship in the eleven (or fewer, if fewer available) relationships other than with the partner, enabled us to assess the intensity of emotional support received from the network, ranging from 0 (no support) to 3 (high level of support).

Health. The instrument used in this investigation was a question about the respondents' perception of their own health: 'How is your health in general?' Answers could be given on a five-point scale, ranging from one (poor) to five (very good).

Socio-economic resources among older people were analysed using three indicators: educational level, home ownership and net household income. Respondents were asked about the highest educational level they had attained, ranging from 1 (lowest level) to 8 (highest level). Respondents were asked whether they owned a home. A rough indication of net household income was obtained by showing respondents a card with twelve income categories (net monthly and net annual income was given). Respondents were asked to indicate the number of the category corresponding to their income.

Procedure

After presenting data about the prevailing types of living arrangements among older adults in the Netherlands and Italy, data about the main variables of the two surveys are presented, focusing on the relationship of the main variables with loneliness. This is followed by a stepwise hierarchical regression analysis to determine the multivariate associations between living arrangements, socio-economic resources, the size of the social network, emotional support received, and health on the one hand, and loneliness on the other. The significance of the control variables sex and age is also tested.

Results

The percentage of older adults living with a partner as registered in the NESTOR-LSN and OLIVAR surveys is 82 and 54 for Dutch older men and women, respectively, and 86 and 52 for Italian men and women, respectively (Table 1). However, older adults in Italy tend to live in households with a partner *and* with children much more frequently than in the Netherlands.

Table 1. Household composition of non-institutionalized elderly men and women in the Netherlands (1992; N = 1548) and Italy (1993; N = 1548)

	Netherlands				Italy			
	Males		Females		Males		Females	
	N	%	N	%	N	%	N	%
Household composition								
• with partner, without children	488	(65.9)	366	(45.2)	344	(46.7)	238	(29.3)
• with partner, with children	121	(16.4)	70	(8.7)	288	(39.1)	181	(22.3)
• one-person household								
never married	27	(3.6)	35	(4.3)	13	(1.8)	37	(4.6)
widowed	56	(7.6)	253	(31.3)	28	(3.8)	128	(15.9)
divorced	24	(3.3)	35	(4.3)	7	(0.9)	2	(0.2)
• without partner, with children	10	(1.3)	32	(4.1)	39	(5.3)	180	(22.2)
• without partner, without children, with others	14	(1.9)	17	(2.2)	18	(2.4)	45	(5.5)
Total	740	(100.0)	808	(100.0)	737	(100.0)	811	(100.0)

Among older people without a partner, a majority in the Netherlands live independently in a one-person household, whereas about half of the Italian older adults who do not have a partner live in a household with their children; less than half of them live in a one-person household. So, as hypothesized, at the national level more positively family-oriented values go hand in hand with higher percentages of coresidence of parents with partners and children, and also of parents without partners and children.

Information about the pathways to coresidence of parents and adult children is lacking for the respondents of the two countries. However, the health position of the parent is used as a proxy of one of the triggers for (the continuation of) coresidence. Table 2 presents living arrangements according to health, and points out that those characterized by poor health are found predominantly among older persons living alone and among older persons without partners who live with their children. The latter situation is prominent among Italian older adults, and uncommon in the Netherlands. It is possible that older Italian adults in bad health are more or less ‘forced’ to coreside, either by prevailing values and norms concerning coresidence, by an absence of community-based long-term care arrangements for elderly persons who prefer to live independently for as long as possible, or by an absence of institutional arrangements. The other independent variables used in this study are

Table 2. Living arrangements of non-institutionalized men and women in the Netherlands (1992; N = 1548) and Italy (1993; N = 1548) according to health

	Netherlands				Italy			
	good health		poor health		good health		poor health	
	N	%	N	%	N	%	N	%
Household composition								
• with partner, without children	595	(58.5)	258	(48.6)	243	(39.1)	339	(36.6)
• with partner, with children	132	(12.9)	59	(11.2)	231	(37.2)	238	(25.7)
• one-person household								
never married	35	(3.4)	26	(5.0)	19	(3.1)	31	(3.3)
widowed	179	(17.6)	130	(24.6)	43	(6.9)	113	(12.2)
divorced	37	(3.7)	22	(4.1)	2	(0.3)	7	(0.8)
• without partner, with children	24	(2.3)	18	(3.5)	68	(11.0)	151	(16.3)
• without partner, without children, with others	15	(1.5)	16	(3.1)	15	(2.4)	48	(5.2)
Total	1017	(100.0)	529	(100.0)	621	(100.0)	927	(100.0)
	$\chi^2 = 23.6$		$p < 0.001$		$\chi^2 = 42.9$		$p < 0.001$	

presented in Table 3. The table gives the mean values, standard deviation and the correlation of these variables with loneliness. Firstly, the mean loneliness scores are given for the direct loneliness question as well as for the negative and positive subscales of loneliness.

The data show that Dutch and Italian older adults do not differ in their answers to the direct loneliness question ($t = –0.9$, $p > 0.05$). The overall mean scores on the direct question do not indicate a difference in openness or willingness to talk about loneliness between respondents of both countries.

However, when the loneliness scale is used, which asks for an evaluation of the presence or absence of specific close emotionally important and more distant relationships, differences between respondents' answers become apparent: in general Italian older adults have higher loneliness scores on the negative items and the positive items subscale ($t = –5.4$, $p < 0.001$ and $t = –16.4$, $p < 0.001$, respectively).

Sharp and significant differences exist between Italian and Dutch older adults in the size of the network and the total number of persons with whom a regular and important relationship is maintained: 5.01 and 14.20, respectively ($t = 34.8$; $p < 0.001$). A more in-depth analysis of this difference (Van Tilburg,

Table 3. Variables, mean scores, standard deviation and zero-order correlation with the loneliness measures for the Netherlands (1992; N = 1548) and Italy (1993; N = 1548)

	Netherlands					Italy				
	M	SD	*r* direct measure	*r* negative subscale	*r* positive subscale	M	SD	*r* direct measure	*r* negative subscale	*r* positive subscale
Direct measure (1 → 3)	1.47	0.78	—			1.50	0.79	—		
Negative subscale (0 → 6)	1.09	1.64	0.67	—		1.42	1.68	0.65	—	
Positive subscale (0 → 5)	1.00	1.38	0.27	0.43	—	1.82	1.41	0.24	0.37	—
Age at day of interview	68.29	8.18	0.11**	0.14**	0.08*	68.32	8.17	0.09**	0.15**	0.05
Sex (male, female)	1.52	0.50	0.18**	0.16**	–0.04	1.52	0.50	0.20**	0.20**	0.07
Income	*f* 2570	*f* 1267	–0.16**	–0.20**	–0.08*	1.548.560 L	1.509.216 L	–0.09*	–0.12**	–0.03
Home ownership? No, yes (0,1)	0.37	0.48	–0.07*	–0.10**	–0.08*	0.70	0.46	–0.12**	–0.13**	–0.07*
Educational level (1 → 8)	3.41	1.93	–0.04	–0.10**	–0.01	2.73	1.69	–0.09**	–0.12**	–0.07*
Network size	14.20	9.60	–0.11**	–0.18**	–0.30**	5.01	3.93	–0.05	–0.14**	–0.21**
Mean emotional support received (0 → 3)	1.54	0.85	–0.04	–0.09**	–0.18**	1.78	1.04	–0.03	–0.09**	–0.18**
Health in general (1 → 5)	3.69	0.87	–0.20**	–0.22**	–0.16**	3.13	1.06	–0.26**	–0.26**	–0.20**

*$p < 0.1$ **$p < 0.001$.

de Jong Gierveld, Lecchini & Marsiglia, in press) showed that, compared to the Dutch respondents, the Italian respondents indicated fewer network members for all partial networks such as a smaller proportion of children and siblings (alive), but also a smaller proportion of in-laws, neighbours and acquaintances. By contrast, the relationships indicated by Italian respondents appear to be more supportive: on average Italians receive more emotional support per relationship (1.78) than the Dutch (1.58). The difference between the two countries is significant ($t = -7.5$; $p < 0.001$).

A difference in the educational level of older adults is apparent: the mean level of education is 2.73 for Italy and 3.41 for the Netherlands. The difference is significant ($t = 10.4$; $p < 0.001$). We see sharp differences in home ownership between the two countries. Among older adults in Italy, 70 percent are home owners, as opposed to only 37 percent among Dutch older adults. The low percentage among Dutch older adults can be explained by age and cohort factors, as well as by the Dutch system of housing corporations providing social housing programmes for large proportions of the population. Whereas 55 percent of all males aged 55 to 59 are home owners in the Netherlands, this is only the case among 24 percent of males aged 84 to 89 (Liefbroer & De Jong Gierveld 1995).

Table 4 offers a more detailed description of the relationship between the independent variables and loneliness, both for the Netherlands and Italy, and differentiated for each of the loneliness measuring instruments. Loneliness is positively related to age: older old respondents are more lonely than young old respondents. Loneliness scores are higher among female older persons than among male older persons.

The mean loneliness scores of older adults in both countries differ depending on the type of household they are in. As expected, older people living with a partner tend to be less lonely than others. Older people living in one-person households show particularly high loneliness scores. The differences in mean loneliness scores between those living in one-person households and other household compositions without a partner compared with those living with their partners correspond with existing ideas about the cohesive functions of the nuclear family and partnership bonds in particular.

Among older adults without partners, a number of other interesting features deserve mention. When using *the direct loneliness question*, Dutch widows and widowers are high scorers. In Italy, never-married and widowed persons living alone fall in the middle categories of loneliness, whereas the (small group of) divorcees living alone score high on loneliness.

What about the relationship between coresidence and loneliness? For older adults with partners, only a very small difference in mean loneliness scores between those coresiding with and without children was observed.

Table 4. Mean loneliness scores of older persons in the Netherlands (1992; N = 1548) and Italy (1993; N = 1548), according to living arrangement, socio-economic status, network characteristics, health, age and gender

	Direct measure $1 \rightarrow 3$		Loneliness scale			
			negative items $0 \rightarrow 6$		positive items $0 \rightarrow 5$	
	NL	IT	NL	IT	NL	IT
Loneliness overall mean scores	1.47	1.5	1.09	1.42	1	1.82
Age at day of interview:						
< 70	1.42	1.44	0.94	1.2	0.9	1.7
$\geqslant 70$	1.56	1.59	1.34	1.74	1.16	1.9
male	1.32	1.33	0.83	1.06	1.06	1.71
female	1.61	1.65	1.34	1.74	0.95	1.93
with partner, without children	1.25	1.38	0.72	1.2	0.91	1.78
with partner, with children	1.23	1.32	0.54	0.94	0.8	1.68
alone, never married	1.75	1.82	1.49	2.18	1.67	1.88
alone, widowed	2.05	1.9	2.12	2.57	1.13	2.24
alone, divorced	1.85	2.33	1.89	3.22	1.51	2.67
without partner, with children	1.87	1.74	1.89	1.68	1.06	1.76
without partner, without children, with others	1.54	1.73	1.16	2.29	0.99	2.27
income $<$ median	1.72	1.6	1.62	1.63	1.17	1.9
$\geqslant$ median	1.36	1.37	0.86	1.05	0.94	1.7
owns home? no	1.52	1.64	1.22	1.76	1.08	1.98
yes	1.4	1.44	0.88	1.27	0.85	1.75
educational level $<$ 3	1.54	1.54	1.3	1.55	1.03	1.89
$\geqslant$ 3	1.42	1.37	0.94	1.06	0.97	1.64
network size $<$ 7	1.64	1.51	1.64	1.52	1.77	1.97
$\geqslant$ 7	1.43	1.45	0.95	1.14	0.8	1.42
mean emotional support received						
< 1.50	1.5	1.52	1.26	1.64	1.21	2.2
$\geqslant 1.50$	1.45	1.49	0.97	1.31	0.84	1.64
good health $\geqslant 4$	1.37	1.32	0.85	0.98	0.85	1.52
poor health < 4	1.67	1.62	1.56	1.71	1.28	2.03

Table 4 points out that the loneliness scores of Italian respondents without partners coresiding with children are much lower than the scores for those living alone. The same trend is not found among Dutch adults. This outcome supports the hypothesis about the country-specific differences in appreciation of coresidence of older adults and their adult children.

Using the loneliness subscale based on negatively formulated items, the pattern roughly resembles the one provided by the direct question. However, on this subscale the effects of coresidence with children in Italy is much more prominent: a sharp difference is found between older adults widowed and living alone (2.57) and those without a partner coresiding with their children (1.68). If we focus on the missing links in the broader social network with the aid of the mean loneliness scores on the *positively formulated items subscale*, Table 4 points out that coresidence with children results in a drop in the mean loneliness scores of older adults in Italy towards the overall mean scores. Unmarried, widowed and divorced older adults who live alone, however, are top scorers on this social loneliness facet in both countries.

Hierarchical regression analysis was performed to assess whether living arrangements, socio-economic resources, network characteristics and health contribute to an explanation of the variance in loneliness scores among older people, after controlling for differences in age and sex. Variables are entered in steps, starting with age, sex and living arrangements, followed by socio-economic indicators, and the size of, and emotional support received in the social network. Health is entered in the final step. The cumulative explained variance is reported for each step. Results from regression analysis on weighted and unweighted Dutch data, respectively, have been compared on the basis of Winshop and Radbill (1994). Only marginal differences were registered. We therefore decided to present the results of the analyses based on the weighted data for the sake of optimal country comparisons.

Table 5, columns 1 to 4, shows that household composition, together with socio-economic and network variables, health, age and sex, explain 20.7% of the total variance in loneliness as measured by the direct loneliness measuring instrument, for Dutch older persons. Significant loneliness provoking contributions are related to household composition, especially ‘living alone as a widow, widower or divorced person’, and ‘living without a partner with children’. Living with a partner, either with or without children, is recognized as a factor contributing significantly to a lower intensity of loneliness. The three socio-economic variables do not significantly explain differences in loneliness among Dutch older persons. Health and network size are significantly related to this measure of loneliness. The most important contribution to an explanation of loneliness is related to household composition; health and network size are of secondary importance.

Table 5. Results of a hierarchical regression on oneliness, older persons in the Netherlands (1992) ($1344 \leqslant N \leqslant 1548$)

	'sometimes lonely ...'				negative items loneliness scale				positive items loneliness scale			
	β	*(p)*	R^2 adj. (cum.)	*p* change	β	*(p)*	R^2 adj. (cum.)	*p* change	β	*(p)*	R^2 adj. (cum.)	*p* change
Age at day of interview	0.05	0.068	0.012	0.001	–0.03	0.309	0.018	0.001	0.00	0.977	0.005	0.002
Sex	0.06	0.023	0.042	0.001	0.04	0.139	0.037	0.001	–0.05	0.083	0.007	0.064
Household composition:			0.179	0.001			0.133	0.001			0.023	0.001
• with partner, without children	–0.25	0.001			–0.18	0.001			–0.05	0.112		
• with partner, with children	–0.19	0.001			–0.16	0.001			–0.05	0.115		
• one-person household, never married	0.02	0.393			0.00	0.973			0.07	0.016		
• one-person household, divorced	0.05	0.050			0.06	0.037			0.04	0.178		
• one-person household, widowed	0.23	0.001			0.19	0.001			–0.00	0.912		
• without partner, with children	0.06	–0.024			0.07	0.020			0.00	0.932		
Income	0.01	0.784	0.179	0.877	–0.02	0.456	0.136	0.022	–0.02	0.640	0.025	0.072
Home ownership? No, yes (0, 1)	0.02	0.386	0.179	0.654	0.02	0.473	0.136	0.984	–0.01	0.608	0.026	0.138
Educational level	0.04	0.135	0.179	0.406	0.01	0.746	0.136	0.486	0.07	0.029	0.026	0.662
Network size	–0.05	0.061	0.180	0.023	–0.12	0.001	0.151	0.001	–0.27	0.001	0.102	0.001
Mean emotional support received	–0.02	0.338	0.180	0.315	–0.05	0.038	0.153	0.035	–0.14	0.001	0.120	0.001
Health in general	–0.17	0.001	0.207	0.001	–0.18	0.001	0.184	0.001	–0.13	0.001	0.135	0.001
Total adj. R^2			0.207				0.184				0.135	

Among Italian older adults, a total of 12.7% of the variance on this loneliness measure is explained (Table 6, columns 1 to 4). Cohesion within the realm of partner bonds and household composition offers the most significant contribution to an explanation of loneliness. Living with a partner contributes significantly to a lower intensity of loneliness scores; while living in a one-person household, especially living alone as a divorced or widowed person, is found to be loneliness provoking. And, in contrast to the situation in the Netherlands, 'living without a partner, with children' is *not* loneliness provoking. Also in contrast to the situation in the Netherlands, one of the three indicators of socio-economic resources contribute significantly to an explanation of variance in loneliness among Italian older adults: people who do not own a home are more prone to high loneliness scores than other older people. If we take into account household composition, age, sex and socio-economic characteristics, none of the network variables significantly contributes to an explanation of loneliness intensity. Health contributes significantly to an explanation of loneliness.

The loneliness subscale consisting of negatively formulated items concerning a lack of personal intimate relationships shows that the total percentage of explained variance decreases from 20.7 to 18.4 percent for Dutch older adults and increases from 12.7 to 16.4 percent for Italian older adults. The overall pattern of significant variables changes for both Dutch and Italian respondents when the direct measure is replaced by the negative items loneliness subscale. Among both Dutch and Italian respondents, the most striking changes are apparent in the network variables: network size as well as mean emotional support received relate significantly or almost significantly to loneliness, indicating a much stronger connection between loneliness and the size and supportiveness of the relationship network than realized via the direct measure 'I sometimes feel lonely'.

The positive loneliness items subscale, eliciting feelings of loneliness connected to the evaluation of the presence or absence of a broader network of friends and less intimate relationships, is less effective in explaining loneliness: 13.5 for Dutch and only 9.8 percent for Italian older adults, respectively. Again, important changes in the pattern of significant relationships with loneliness are apparent (Tables 5 and 6, columns 9 to 12). As expected, the most important contribution to an explanation of loneliness is not related to partner bonds and household composition – the intimate relationships –, but to network size and mean emotional support received – indicators of a larger network of social relationships. Again, for the Dutch respondents, none of the socio-economic variables contributes significantly to explaining loneliness, whereas home ownership does for the Italian respondents.

Table 6. Results of a hierarchical regression on loneliness, older persons in Tuscany, Italy (1993) ($1318 \leqslant N \leqslant 1548$)

	'sometimes lonely ...'				negative items loneliness scale				positive items loneliness scale			
	β	*(p)*	R^2 adj. (cum.)	*p* change	*β*	*(p)*	R^2 adj. (cum.)	*p* change	*β*	*(p)*	R^2 adj. (cum.)	*p* change
Age at day of interview	–0.06	0.053	0.006	0.002	0.00	0.975	0.023	0.001	–0.05	0.114	0.001	0.072
Sex	0.08	0.004	0.042	0.001	0.08	0.002	0.058	0.001	0.04	0.226	0.006	0.008
Household composition:			0.085	0.001			0.116	0.001			0.015	0.004
• with partner, without children	–0.21	0.001			–0.21	0.001			–0.05	0.171		
• with partner, with children	–0.23	0.001			–0.25	0.001			–0.06	0.113		
• one-person household, never married	0.03	0.435			0.03	0.472			–0.03	0.458		
• one-person household, divorced	0.15	0.017			0.15	0.013			0.07	0.276		
• one-person household, widowed	0.06	0.092			0.09	0.008			0.03	0.461		
• without partner, with children	–0.02	0.521			–0.12	0.001			–0.09	0.011		
Income	–0.02	0.524	0.086	0.125	–0.03	0.235	0.120	0.013	0.02	0.437	0.015	0.634
Home ownership? No, yes (0, 1)	–0.06	0.025	0.090	0.011	–0.07	0.008	0.125	0.003	–0.05	0.054	0.018	0.024
Educational level	–0.01	0.620	0.091	0.113	–0.04	0.155	0.128	0.021	–0.03	0.237	0.020	0.068
Network size	–0.00	0.875	0.090	0.654	–0.07	0.007	0.134	0.001	–0.16	0.001	0.058	0.001
Mean emotional support received	–0.01	0.764	0.090	0.846	–0.04	0.096	0.135	0.122	–0.14	0.001	0.074	0.001
Health in general	–0.21	0.001	0.127	0.001	–0.18	0.001	0.164	0.001	–0.17	0.001	0.098	0.001
Total adj. R^2			0.127				0.164				0.098	

Discussion

The data presented in this paper show clearly that on average loneliness intensity is rather low among older adults. In general, Italian older adults are lonelier than the Dutch. Moreover, the intensity of loneliness varies strongly among older people. Although the study provided a positive zero-order correlation coefficient between age and loneliness, further analysis revealed that cohesion variables, socio-economic indicators and health are much more decisive in explaining differences in loneliness intensity than age. This appears to be the case for Dutch as well as Italian older people.

Among older people without partners the proportion living alone is much higher in the Netherlands than in Italy; and the proportion of older adults without partners who coreside with children is higher in Italy than in the Netherlands. The latter phenomenon corresponds with the findings of Mengani and Lamura (1995), namely that in Italy many older people move into one of their children's homes once they are widowed. This is also in agreement with the data from the Eurobarometer Survey (Commission of the European Communities 1993), that in-house care for older persons is 34 percent in Italy and only 2 percent in the Netherlands. A possible explanation for these differences could be the larger family size in Italy than in the Netherlands. However, official statistical data show that the largest families are to be found among Dutch older adults and not among Italian older people. So this explanation does not hold. On the other hand, an economic explanation must not be ruled out. Living together in a joint household is one of the ways in which adult children and older persons support one another where there are insufficient economic resources. Furthermore, coresidence may be an option in a country like Italy, where institutional arrangements for older adults are virtually absent.

The socio-economic home ownership variable indicates an important discrepancy between Dutch and Italian older persons: home ownership is nearly twice as high in Italy as in the Netherlands. This is in contrast to the difference in educational level between older persons in both countries: on average the Dutch have a higher level of education.

As far as the marked differences in the size of the network (and the size of the partial subnetworks of children, brothers and sisters) of older people in the two countries are concerned, one has to take into account that the drop in the annual birth rate started much earlier (about 1920) in northern and central Italy (Terra Abrami & Sorvillo 1993) than in the Netherlands. In the Netherlands, the decline set in later (around 1965–1970) and was more abrupt. So, the numbers of ever-born brothers and sisters of older people in Italy are significantly lower than in the Netherlands; the same pattern can be seen among the numbers of children ever born to persons aged 55 and over in Italy

and the Netherlands. This fact has to be taken into account when explaining the size of the network realized by Italian older adults. Another explanation could be that the smaller network size reported by Italian older men and women is influenced by a stricter selection from the available potential network members. This mechanism could also be responsible for the finding that relationships reported by Italian respondents prove to be more supportive than those reported by Dutch older people. Existing literature provides some additional support for this research finding. A study by Dooghe (1991) says that, compared to the situation in other countries, the frequency of contacts between older parents and their children seems to be far lower in the Netherlands, where only half of the older adults who live independently are visited at least once a week by their children, and where one out of seven older people is rarely visited by their children.

The data presented in this study show that personal relationships, marital status and living arrangements are indeed significantly related to loneliness in both countries. Firstly, household composition is important: older people living with a partner are less lonely than other older people, especially older people living alone. Among those living alone, Dutch widows and widowers are high scorers, which is in accordance with social expectations. Perhaps never-married and divorced older adults are to a certain extent influenced by the social taboo to openly admit their (intense) feelings of loneliness. In Italy, divorced people living alone were found to be high scorers on this loneliness measure. Living without a partner but with children yields country-specific correlations: less loneliness in Italy, more loneliness in the Netherlands. It is hypothesized that these differences are directly related to different social evaluations of the care provided to older adults by family members in the form of a joint household: an attractive alternative in Italy, a last resort in the Netherlands. In other words, the more traditional family orientation of Italians is reflected in higher percentages of coresidence of parents without partners, especially if they are in poor health, and in relatively low mean loneliness feelings in this coresiding category of older people. The more individualized family orientation of the Dutch is related to low percentages of coresidence among older adults without partners, and a higher mean loneliness in this category of coresiding older adults. Secondly, network size and mean emotional support received from network members are significantly related to loneliness, albeit in varying ways depending on the loneliness measure used.

In this study three loneliness measures have been used. Two of these measures, the direct and the negative, are strongly interrelated. Using the different measures provides us with different views on loneliness that partly support one another, and partly offer different outlooks on the loneliness phenomenon.

If a direct loneliness measuring item, "I sometimes feel lonely" is used, the prevailing social concept of loneliness is reflected. Consequently, for Italian older persons, the term loneliness is associated with living all alone, with poor health and with not owning the house they live in. For Dutch older persons, home ownership is not connected with loneliness at all. Loneliness is indeed related to health and to living arrangements, especially among older adults without partners, including the small group of older Dutch persons who live without a partner, with children. As predicted, the scores on the loneliness subscales are hardly affected by prevailing social ideas and taboos regarding loneliness, but they do reflect the effects of the absence or presence of certain personal relationships. On the negative loneliness subscale the predominant contribution to an explanation of loneliness is related to private relationships, namely partner bonds and household composition. On the positive loneliness subscale the most important contribution is related to network size as well as the emotional support received from the broader network.

So, on the one hand the data of this study support the idea that loneliness-provoking mechanisms are more or less comparable over countries, especially when loneliness measures provide respondents with guidelines for the core facets of loneliness, as offered by both loneliness subscales. On the other hand, this study indicates country-specific social concepts of loneliness, as elicited by the item 'sometimes lonely'. In Dutch society loneliness has been constructed as a phenomenon related to the absence of a partner, poor health and a small network of social relationships. In Italy, however, loneliness is primarily connected with living alone, that is to say, without a partner and/or children, poor health and socio-economic dependency in the sense that they do not own the house they live in.

The differences in loneliness indicated on the three loneliness measuring instruments in this study are partly related to what these instruments measure, namely the presence or absence of intimate relationships versus a broader network of colleagues, friends and acquaintances. Another possible source of differences is related to the methodological characteristics of these instruments (de Jong Gierveld 1998). The direct measuring instrument used the term 'loneliness' explicitly; this term could elicit taboo-related answers. A subscale consisting of only negatively, or only positively formulated items, on the other hand, may elicit response bias via either nay-saying or yeah-saying of the respondents. We therefore recommend the use of a multi-item measuring scale that includes both positive and negative items. The 11-item loneliness scale – a combination of the positive and negative subscales – has been frequently used in survey research and has been tested for response bias and controlled for unidimensionality and homogeneity of the total set of items. Depending on the research question of the study under consideration,

we recommend the selection of either the positive and negative subscales separately, or the use of the 11-item loneliness scale.

Acknowledgments

This paper is based partly on data collected in the context of the research programme 'Living arrangements and social networks of older adults', which is being conducted at the Departments of Sociology and Social Science Methodology, Faculty of Social Cultural Sciences of the Vrije Universiteit in Amsterdam, and at the Netherlands Interdisciplinary Demographic Institute in The Hague. The research is supported by a programme grant from the Netherlands Programme for Research on Ageing (NESTOR), funded by the Ministry of Education and Science and the Ministry of Welfare, Health and Cultural Affairs.

References

Antonucci, T. C. & Akiyama, H. (1987). Social networks in adult life and a preliminary examination of the convoy model, *Journal of Gerontology* 42: 519–527.

Baltes, M. M., Mayr, U., Borchelt, M., Maas, I. & Wilms, H. U. (1993). Everyday competence in old and very old age: An inter-disciplinary perspective, *Ageing and Society* 13: 657–680.

Bosveld, W. (1996). *The ageing of fertility in Europe.* Amsterdam: Thesis Publishers.

Bottai, M., Caputo, M. & Lecchini, L. (1995). The OLIVAR survey. Paper presented at the workshop on Living Arrangements and Social Networks of the Elderly; a Comparative Analysis. Pisa, 1–2 June 1995.

Calvani, P., Gallina, C. & Palomba, R. (1996). L'immagine degli anziani (About elderly). In C. Bonifazi, A. Menniti & R. Palomba, R. (eds.), *Bambini, Anziani e Immigrati* (pp. 187–194). Scandicci (Florence): La Nuova Italia Editrice.

Commission of the European Communities (1993). *Age and attitudes: Main results from a Eurobarometer survey*. Brussels.

Crochan, M., Larner, M., Riley, D., Gunnarsson, L. & Henderson, C. R. (1990). *Extending families: The social networks of parents and their children.* Cambridge: University Press.

Day, A. T. & Day, L. H. (1994). *'The lay of its land'. Older age structures, environment and social change: Opportunities for Australia and the Netherlands in the 21st century.* The Hague, the Netherlands: NIDI.

De Jong Gierveld, J. (1986). Husbands, lovers and loneliness. In R. A. Lewis & R. E. Salt (eds.), *Men in families* (pp. 115–125). London: Sage.

De Jong Gierveld, J. (1987). Developing and testing a model of loneliness, *Journal of Personality and Social Psychology* 53: 119–128.

De Jong Gierveld, J., Dykstra, P. A. & Beekink, E. (1994). A growing challenge: The very old. In *Population Growth and Demographic Structure, Proceedings of the United Nations Expert Group Meeting on Population Growth and Demographic Structure, Paris, 16–20 November 1993* (convened in preparation for the International Conference on Population and Development, Cairo, 5–13 September 1994) (pp. 295–324).

De Jong Gierveld, J. & Kamphuis, F. (1985). The development of a Rasch-type Loneliness scale, *Applied Psychological Measurement* 9: 289–299.

De Jong Gierveld, J. & Van Solinge, H. (1995). *Ageing and its consequences for the socio-medical system*, Population Studies No. 29. Strasbourg: Council of Europe Press.

De Jong Gierveld, J. & Van Tilburg, T. G. (1989). The partner as a source of social support in problem and non-problem situations. In M. Hojat & R. Crandall (eds.), *Loneliness: theory, research and applications* (pp. 191–200). London: Sage.

De Jong Gierveld, J. (1998). A review of loneliness: concepts and definitions, determinants and consequences, *Reviews in Clinical Gerontology* 8: 73–80.

Depner, C. E. & Ingersoll-Dayton, B. (1988). Supportive relationships in later life, *Psychology and Aging* 3: 348–357.

Dooghe, G. (1991). *The ageing of the population in Europe; socio-economic characteristics of the elderly population.* Brussels: CBGS.

Dykstra, P. A. (1990). *Next of (non)kin. The importance of primary relationships for older adults' well-being*. Lisse: Swets & Zeitlinger.

Dykstra, P. A. (1995). Loneliness among the never and formerly married: the importance of supportive friendships and a desire for independence, *J. of Gerontology, Social Sciences*, 50B: 321–329.

Engbersen, G. B. M. (1990). *Publieke Bijstandsgeheimen: Het Ontstaan van een Onderklasse in Nederland.* Leiden/Amsterdam: Stenfert Kroese.

Ester, P., Halman, L. & de Moor, R., eds. (1994). *The individualizing society: Value change in Europe and North America* (pp. 97–129). Tilburg, the Netherlands: Tilburg University Press.

Gove, W. R. & Hughes, M. (1980). Reexamining the ecological fallacy: A study in which aggregate data are critical in investigating the pathological effects of living alone, *Social Forces* 57: 1157–1177.

Grundy, E. (1992). The living arrangements of elderly people, *Reviews in Clinical Gerontology* 2: 353–361.

Klaus, J. & Hooimeijer, P. (1994). Ouder worden en inkomenszekerheid [Income security in old age], *Supp. soc.-econ. mndstat.* 6: 12–22.

Jylhä, M. & Jokela, J. (1990). Individual experiences as cultural: A cross-cultural study on loneliness among the elderly, *Ageing and Society* 10: 295–315.

Klinger, A. (1992). Aging and changing household structures. In *Changing Population Age Structures: Demographic and Economic Consequences and Implications*. United Nations, Economic Commission for Europe (pp. 325–333). Geneva: UNFPA.

Knipscheer, C.P.M. (1993). Aging, social environment and social support, *European Journal of Gerontology* 1: 421–435.

Knipscheer C. P. M., De Jong Gierveld, J., Van Tilburg, T. G. & Dykstra, P. A., eds. (1995). *Living arrangements and social networks of older adults.* Amsterdam: VU University Press.

Lecchini, L., Marsiglia, D. & Bottai, M. (1995). Old people and social networks. Paper presented at the workshop on Living Arrangements and Social Networks of the Elderly; a Comparative Research, Pisa, Italy, 1–2 June 1995.

Liefbroer, A. C. & De Jong Gierveld, J. (1995). Living arrangements, socio-economic resources and health. In C. P. M. Knipscheer, J. de Jong Gierveld, T. G. van Tilburg & P. A. Dykstra (eds.), *Living arrangements and social networks of older adults* (pp. 15–36). Amsterdam: VU University Press.

Malpas, N. & Lambert, P.-Y. (1993). *Europeans and the family: Results of an opinion survey*. Brussels: Commission of the European Communities.

Manton, K. G. & Soldo, B. J. (1992). Disability and mortality among the oldest old: Implications for current and future health and long-term care service needs. In R. M. Suzman, D. P. Willis & K. G. Manton (eds.), *The oldest old* (pp. 199–250). New York: Oxford University Press.

Mengani, M. & Lamura, G. (1995). Elderly women, family structure and care patterns in Italy. In G. Dooghe & N. Appleton (eds.), *The elderly women in Europe: Choices and challenges.* Brussels: CBGS.

Moors, H. (1995). The Netherlands: Great tolerance but little solidarity. In H. Moors & R. Palomba (eds.), *Population, family, and welfare; a comparative survey of European attitudes* (pp. 177–196). Oxford: Clarendon Press.

Mullins, L. C., Sheppard, H. L. & Andersson, L. (1988). A study of loneliness among a national sample of Swedish elderly, *Compr. Gerontol. B.* 2: 36–43.

Mullins, L. C. & Mushel, M. (1992). The existence and emotional closeness of relationships with children, friends and spouses: the effect on loneliness among older persons, *Research on Aging* 14: 448–470.

Myers, G. C. (1992). Demographic aging and family support for older persons. In H. Kendig (ed.), *Family support for the elderly. The international experience* (pp. 31–68). Oxford: Oxford University Press.

Palomba, R. (1995). Italy, the invisible change. In H. Moors & R. Palomba (eds.), *Population, family, and welfare: A comparative survey of European attitudes* (pp. 158–176). Oxford: Clarendon Press.

Perlman, D. & Peplau, L. A. (1981). Toward a Social Psychology of Loneliness. In R. Gilmour & S Duck (eds.), *Personal relationships in disorder* (pp. 31–56). London: Academic Press.

Sherrard, C. A. (1994). Elderly well-being and the psychology of social comparison, *Ageing and Society* 14: 341–356.

Soldo, B. J., Wolf, D. A. & Agree, E. M. (1990). Family, households, and care arrangements of frail older women: A structural analysis, *Journal of Gerontology: Social Sciences* 45: 238–249.

Sundström, G. (1994). Care by families; an overview of trends. In *Caring for frail elderly: New directions in care* (pp. 15–39). OECD Social Policy Studies no. 14.

Terra Abrami, V. & Sorvillo, M. P. (1993). La fécondité en Italie et dans ses régions (Fertility in Italy and its regions), *Population* 48: 735–751.

Tijhuis, M. A. R. (1994). *Social networks and health.* Utrecht, the Netherlands: NIVEL.

Townsend, P. & Tunstall, S. (1973). Sociological explanations of the lonely. In P. Townsend (ed.), *The social minority* (pp. 240–266). London.

Van de Kaa, D. J. (1987). Europe's second demographic transition, *Population Bulletin* 42: 1.

Van Solinge, H. (1994). Living arrangements of non-married elderly people in the Netherlands in 1990, *Ageing and Society* 14: 219–236.

Van Tilburg, T. G. (1988). *Verkregen en Gewenste Ondersteuning in het licht van Eenzaamheidservaringen* [Obtained and desired social support in association with loneliness]. Ph.D. Thesis. Amsterdam:Vrije Universiteit.

Van Tilburg, T. G., De Jong Gierveld, J., Lecchini, L. & Marsiglia, D. (in press). Household composition, social networks and loneliness: A comparative study among older adults in the Netherlands and Tuscany, Italy, *Journal of Personal and Social Relationships.*

Van Tilburg, T. G. & De Leeuw, E. D. (1991). Stability of scale quality under various data collection procedures: A model comparison of the 'De Jong Gierveld loneliness scale', *International Journal of Public Opinion Research* 3: 79–85.

Vicente, L., Wiley, J. A. & Carrington, R. A. (1979). The risk of institutionalization before death, *The Gerontologist* 19: 361–367.

Wall, R. (1984). Residential Isolation of the Elderly: A comparison over time, *Ageing and Society* 4: 483–503.

Weiss, R. S. (1973). *Loneliness: The experience of emotional and social isolation.* Cambridge: MIT Press.

Wenger, G. C. (1983). Loneliness: A problem of measurement. In D. Jerrome (ed.), *Ageing in modern society* (pp. 145–167). London: Croom-Helm.

Wenger, G. C., Davies, R., Shatahmasebi, S. & Scott, A. (1996). Social isolation and loneliness in old age: Review and model refinement, *Ageing and Society* 16: 333–358.

Winshop, C. & Radbill, L. (1994). Sampling weights and regression analysis, *Sociological Methods and Research* 23: 230–257.

Address for correspondence: Jenny de Jong Gierveld, NIDI, P.O. Box 11650, 2502 AR The Hague, The Netherlands
Phone: + 31 70 3565227; Fax: + 31 70 3647187; E-mail: gierveld@nidi.nl